



PATENT  
Y01-028

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS

In re Application of: Chris J. Kavanaugh  
Serial No. 09/932,018  
Filed: August 18, 2001  
For: Universal Holding Fixture

: Date: December 11, 2003  
: Group Art Unit: 3723  
: Examiner: Lee Wilson

APPEAL BRIEF TRANSMITTAL LETTER

The Commissioner of Patents and Trademarks  
Washington, D.C. 20231


Sir:

Enclosed is an Appeal Brief, in triplicate, for the above-identified patent application.

- ☐ Applicant petitions for an extension of time for month(s). If an additional extension of time is required, please consider this a petition therefore. Fee:
- ☐ An extension for month(s) has already been secured; the fee paid therefore of is deducted from the total fee due for the total months of extension now requested.  
Extension fee due with this request:
- ☒ Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.
- ☐ The Appeal Brief Fee was paid in a prior appeal in which there was no decision on the merits by the Board of Appeals.
- ☒ The Appeal Brief Fee is enclosed herewith. Fee = \$165.00
- ☒ The total fee due is \$165.00.
- ☒ Address correspondence to the undersigned at P. O. Box 80790, Rancho Santa Margarita, CA 92688.

This letter is submitted in triplicate.

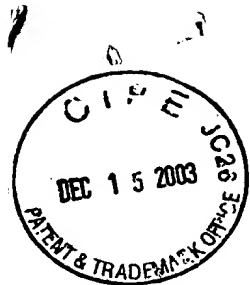
Respectfully submitted,

  
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Encls.

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PATENT  
PD-Y01-040

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS

*#16 / Brief*

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Appeal No. \_\_\_\_\_

In re Application of: CHRIS J. KAVANAUGH

Serial No.: 09/932,018 ✓

Filed: August 18, 2001

For: UNIVERSAL HOLDING FIXTURE

APPELLANTS' BRIEF ON APPEAL

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS**

In re Application of: CHRIS J. KAVANAUGH	: Date: December 11, 2003
Serial No.: 09/932,018	: Group Art Unit: 3723
Filed: August 18, 2001	:
For: UNIVERSAL HOLDING FIXTURE	: Examiner: Lee Wilson

**APPELLANT'S BRIEF ON APPEAL**

Commissioner of Patents and Trademarks  
Washington, D. C. 20231

Sir:

This is Appellants' brief on appeal from the decision of the Examiner in the Office Action dated March 28, 2003 finally rejecting Claims 1-19 in the above-identified patent application. This brief is submitted in accordance with the provisions of 37 C.F.R. §1.192.

**REAL PARTY IN INTEREST**

The real party in interest is the inventor, Chris J. Kavanaugh.

**RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to appellants, appellant's legal representative, or the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**STATUS OF CLAIMS**

Claims 1-19 are currently pending in this application and were finally rejected in the Office Action dated March 28, 2003. Appellant appeals from this final rejection.

**STATUS OF AMENDMENTS**

With regard to the status of amendments, no claim amendments were made in response to the final Office Action dated March 28, 2003. The Claims as they currently stand are presented in the Appendix.

**SUMMARY OF INVENTION**

The present invention provides for improved universal holding fixtures (10) that are designed to hold an object or workpiece having any shape and allows orientation of the workpiece so that all sides of the object or workpiece may be easily viewed and worked on.

The universal holding fixtures (10) comprise a plurality of dual axis rotatable clamps (12) that are interconnected by way of rods (15) to form an articulated structure. The dual axis rotatable clamps (14) are individually moveable or slidable along the rods (15), are individually rotatable around the rods (15), and are individually lockable or securable to the rods (15) to which they are connected. Loosening of selected dual axis clamps (14), rotating and translating selected rods (15) relative to the dual axis clamps (14) and retightening the dual axis clamps (14) provides for positioning of the ends of the rods (15) that are used to hold the object or workpiece in a desired position and orientation.

A preferred embodiment of the universal holding fixture (10) comprises a base (11) to which a plurality of single-axis clamps (12) are secured that are interconnected by a fixed rod (13) secured by the single-axis clamps (12). The articulated structure is coupled to the fixed rod (13) and is articulated relative to the fixed rod (13) and the base (11) such that selected ones of the rods (15) secured by the dual axis rotatable clamps (14) are positioned to hold an object or workpiece. Once the object or workpiece is held by the rods (15) of the articulated structure, the dual axis rotatable clamps (14) are secured or clamped to the rods. (15) s may be loosened to rotate the rods (15) to any desired angle or orientation to allow the object or workpiece to be secured in a desired position.

An exemplary embodiment of the articulated structure comprises a plurality of first dual axis clamps (14) to which the fixed rod (13) is slidably secured and that each have a second rod (15) transversely extending therefrom that is secured thereby. A second dual axis clamp (14a) is slidably secured to each of the second rods (15). Each second dual axis clamp (14a) slidably secures a third rod (21) that is disposed generally transverse to the second rod (15) secured thereby. A third dual axis clamp (14b) is slidably secured to each of the third rods (21). Each third dual axis clamp (14b) slidably secures a fourth rod (23) that is disposed generally transverse to the third rod (21) secured thereby. A fourth dual axis clamp (14c) is slidably secured to each of the fourth rods (23). The fourth dual axis clamps (14c) are slidably secured to a fifth rod (25).

Optional fifth dual axis clamps (14d) are slidably secured to the fifth rod (25). The fifth dual axis clamps (14d) each slidably secure a sixth rod (27). The respective sixth rods (27) may be used to position and support the fifth rod (25) at different positions above the base (11). Rotation of each fifth dual axis clamp (14d) around the axis of the fifth rod (25) and clamping of the respective positions of the sixth rods (27) at any desired angle and height relative to the base (11).

In addition, an alternative embodiment of the universal holding fixture (10) includes threaded machine screws (29) that engage selected pairs of (second and third) dual axis clamps (14a, 14b). The threaded machine screws (29) may be tightened to pull rods (14) contacting an object or workpiece toward each other to squeeze the object and securely hold it, such as in the manner of a vise.

## ISSUES

The sole issue in this appeal is whether Claims 1-19 are anticipated by US Patent No. 3,987,579 issued to Palenik, III.

## GROUPING OF CLAIMS

With regard to the specific grounds of rejection that are in issue, it is respectfully submitted that Claims 1-19 stand or fall together.

## ARGUMENT

Claims 1-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 3,987,579 issued to Palenik, III. It is respectfully submitted that the present invention is not anticipated by, nor is it obvious in view of the Palenik, III patent.

The Palenik, III patent discloses "A kit-type game or amusement device having a foundation board, building blocks and connector rods. The board and blocks have holes formed therein adapted to frictionally receive the rods, and the spacing between adjacent holes on both are related. The relationship makes possible the construction of an almost limitless variety of free-form structures." It is respectfully submitted that the Palenik, III patent discloses or suggests nothing regarding holding fixtures that are designed to hold an object or workpiece having any shape and allow orientation of the workpiece so that all sides of the object or workpiece may be easily viewed and worked on.

The Examiner's position is that "Palenik III discloses a universal fixture having a plurality of dual axis clamps (38 ) each are rotatably and slidably secured rods (fig. 3), and a base (13). Palenik III discloses enough parts to anticipates all claim pluralities." It is respectfully submitted that the Examiner's rejection is in error.

Claim 1 calls for a universal holding fixture for holding an object that comprises "a plurality of dual axis clamps that are each rotatable, slidable and lockable to two rods to form an articulated structure, which rods and clamps are rotatable, slidable and lockable relative to each other to position the rods at varying and arbitrary angles relative to each other, and wherein selected rods are suitably positioned and secured to hold the object". [Emphasis added]

The Palenik, III patent does not disclose "dual axis clamps". The Palenik, III patent discloses that "building blocks 15 comprise a plurality each of basic three-dimensional forms, such as, cubes 32, rhombic parallelepipeds 34, rectangular parallelepipeds 36 and 38, and triangular prisms 40." There are no clamping devices disclosed or suggested in the Palenik, III patent. The components (38) referred to by the Examiner are parallelepipeds 38, which are blocks that have holes 44 therein.

The parallelepipeds and other block-like components disclosed in the Palenik, III patent are not "securable to rods". It is stated that "Each of the blocks has one or more holes formed in at least two sides thereof." It is stated that "To build a free-form structure with the device 10, it is simply necessary to insert connector rods 17 into foundation board holes 24 and insert the

opposite ends of said rods into holes 44 of building blocks 15." Thus a rods are inserted into one or more holes in the base and into holes in selected blocks producing an erected structure. There is no means for securing the blocks to the rods disclosed or suggested in the Palenik, III patent.

The structures formed in accordance with the teachings of the Palenik, III patent do not clamp anything, nor are the blocks used in the Palenik, III amusement device clamps, or dual axis clamps. A clamp is defined by Webster's New International Dictionary, Second Edition, as a "device that holds fast, binds things together of wedges adjacent parts against other members of a unit; as a carpenter's clamp operated by a screw movement; the lugs and bolts by which a mechanism is made fast to a frame, etc."

It is respectfully submitted that the Palenik, III patent does not disclose or suggest that the structures discussed therein are clamps or that they are used to clamp anything. The terms "clamp" and "dual axis clamp" are not used in the Palenik, III patent. It is respectfully submitted that the Examiner's position is clearly not supported by the teachings of the Palenik, III patent.

Furthermore, the blocks disclosed in the Palenik, III patent are not lockable as are the clamps in the present invention. Note that the blocks are free to slide along the axis of the rods and only stay in place because of the fact that the bores of the holes in the blocks are about the same diameter as the rods so that there is a tight fit therebetween.

In the present invention, the "rods and clamps are rotatable and slidable relative to each other to position the rods at varying and arbitrary angles relative to each other". This is clearly not the case with the Palenik, III device. The rods of the Palenik, III device have fixed angular relationships; they are oriented at right angles, are collinear, or are perpendicular to the surfaces of the triangular blocks, as is shown in Fig. 4. The holes in the blocks and base of the Palenik, III device are also "spaced apart a distance of  $1/2U$  or a whole number multiple of  $U$ , such as,  $1U$ ,  $2U$ , etc., as indicated in FIG. 2" Thus, there are no arbitrary angles into which the Palenik, III rods and blocks may be positioned. The rods are either horizontal, vertical or at a fixed angle defined by the angle of an edge of a triangular block.

Furthermore, the Palenik, III patent does not disclose or suggest that any structure that is formed is intended to hold any object. While it appears to be possible to construct a structure using the base, blocks and rods that might somehow support an object, it is clear that this is not disclosed or suggested by the Palenik, III patent, nor would such a structure form "an articulated structure having dual axis clamps that may be positioned at arbitrary angles relative to each other and that hold an object, as is the case with the present invention.

The Examiner has argued that "Applicant argues that the rods of the prior art are not securable to blocks but that is not true." However, the Examiner's unsupported statement does not address where in the Palenik, III patent it is stated that the blocks are secured to the rods. While the blocks can slide along the rods, it is clear that they are not locked to the rods.

The Examiner has argued that "There is no means to secure the blocks to rods but that is what the holes in the blocks do." However, it is respectfully submitted that the holes do not lock the blocks to keep them from sliding or rotating. The presently claimed dual axis clamps perform this function and this is not disclosed or suggested in the Palenik, III patent.

The Examiner has argued that "If you have more than one angle then you have arbitrary angles." This statement is not understood and is clearly incorrect. An arbitrary angle is one that is continuously variable. This is clearly not the case with the components used in the Palenik, III structures.

The Examiner has argued that "There would be dual axis structures formed on structures that accommodate multiple rods." While there are structures formed using the Palenik, III blocks and rods that have more than one axis, this is irrelevant to the present invention, which provides for a holding fixture having multiple dual axis clamps that slide along and around and lock to rods to hold an object.

It is respectfully submitted that the pending Claims recite that the dual axis clamps are each rotatable, slidable and lockable to two rods to form an articulated structure. It is respectfully submitted that this structure is clearly distinguishable over the teachings of the Palenik, III patent. It is respectfully submitted that there are no lockable elements disclosed or suggested in the Palenik, III patent.

The Examiner has argued that "There is no structure being claimed that locks or allows the rods to slide relative to each other." It is respectfully submitted that this statement is illustrative of the Examiner's misunderstanding of the presently claimed invention. Applicant has not claimed structure that locks or allows the rods to slide relative to each other.

Claim 1 recites "a plurality of dual axis clamps that are each rotatable, slidable and lockable to two rods to form an articulated structure, which rods and clamps are rotatable, slidable and lockable relative to each other to position the rods at varying and arbitrary angles relative to each other, and wherein selected rods are suitably positioned and secured to hold the object." It is clear that what is recited in Claim 1 states that the "rods and clamps are rotatable, slidable and lockable relative to each other." [Emphasis added] This is not a statement that the rods slide relative to each other as is erroneously argued by the Examiner.

The Examiner argued that "The claims will always have some angle that can be considered an arbitrary angle." This statement is not understood and is also erroneous. Claim 1 recites that the "rods and clamps are rotatable, slidable and lockable relative to each other to position the rods at varying and arbitrary angles relative to each other." As is clearly disclosed in the specification and shown in the drawing figures, the rods and clamps used in the present holding fixture may be rotated and slid relative to each other so that the end of any particular rod is pointed in any desired direction. This is clearly not the case with the structure disclosed in the Palenik, III patent. The rods of the Palenik, III structure are generally disposed at fixed angles relative to other rods, and as such cannot possibly be positioned at varying and arbitrary angles relative to each other, as is presently claimed.

Claim 1 also recites "a plurality of dual axis clamps that are each rotatable, slidable and lockable to two rods." The Palenik, III patent does not disclose or suggest any structure wherein more than one (a plurality) of blocks are each rotatable, slidable and lockable to two rods. Looking at Fig. 5 of the Palenik, III patent, it is clear that this is not the case. In particular, at the right side of Fig. 5, the lowest block has two vertical rods that extend into holes therein, and the two vertical rods are inserted into two adjacent holes in the base. Therefore, it is absolutely impossible for the lowest block to rotate with respect to the rods.

Similarly, at the left side of Fig. 5, the lowest block has three vertical rods that extend into holes therein, and the three vertical rods are inserted into three collinear holes in the base. Therefore, it is absolutely impossible for the lowest block to rotate with respect to the rods. At the bottom of Fig. 5, a single triangular shaped block is connected to the base using a single vertical rod. While this single triangular shaped block may be rotated around the vertical rod, there is no means to lock it to the rod. Furthermore, in this structure, there is only one vertical rod, which is not what is presently claimed. The present invention calls for "a plurality of dual axis clamps that are each rotatable, slidable and lockable to two rods", which is not what is shown at the bottom of Fig. 5 of the Palenik, III patent.

The Examiner also argued that "Applicant argues that the prior art does not disclose universal holding fixture because of it intended use; however, if a device can support a workpiece it would then be useable as a workholder." It is respectfully submitted that Applicant has not argued intended use as the basis of patentability of the present invention, but has recited structure that is different from what is disclosed or suggested by the Palenik, III patent.

As was argued previously, the structures formed in accordance with the teachings of the Palenik, III patent do not clamp anything, nor are the blocks used in the Palenik, III amusement device clamps, or dual axis clamps. It is respectfully submitted that the Palenik, III patent does not disclose or suggest that the structures discussed therein are clamps or that they are used to clamp anything. The terms "clamp" and "dual axis clamp" are not used in the Palenik, III patent. It is respectfully submitted that the Examiner's position is clearly not supported by the teachings of the Palenik, III patent.

In view of the above, it is respectfully submitted that the Palenik, III patent does not disclose or suggest the invention recited in Claim 1. Furthermore, it is respectfully submitted that the present invention is not derivable from the teachings of the Palenik, III patent without distorting or extending its teachings and using hindsight reconstruction in light of Applicant's own teachings. Therefore, it is respectfully submitted that the invention recited in Claim 1 is not disclosed or suggested by the Palenik, III patent. Accordingly, reversal of the Examiner's rejection of Claim 1 is respectfully requested.

Dependent Claims 2-11 are considered patentable based upon their dependence from allowable Claim 1. Reversal of the Examiner's rejection of Claims 2-11 is respectfully requested.



Independent Claims 11 and 17 are considered patentable for the same reasons argued with regard to Claim 1. In addition, with regard to independent Claim 17, it calls for a universal holding fixture comprising a base; and an articulated structure rotatably secured to the base, and wherein the articulated structure comprises plurality of dual axis clamps. It is respectfully submitted that the Palenik, III patent does not disclose or suggest any articulated structure that is rotatably secured to a base that uses a plurality of dual axis clamps.

The detailed structure recited in Claim 17 includes:

"a plurality of first dual axis clamps that are each rotatable, slidable and lockable to a fixed rod and that are each rotatable, slidable and lockable to a second transverse rod;  
a plurality of second dual axis clamps that are each rotatable, slidable and lockable to a respective second rod and that are each rotatable, slidable and lockable to a third rod that is disposed generally transverse to the respective second rod;  
a plurality of third dual axis clamps that are each rotatable, slidable and lockable to a respective third rod and that are each rotatable, slidable and lockable to a fourth rod that is disposed generally transverse to the respective third rod; and  
a plurality of fourth dual axis clamps that are each rotatable, slidable and lockable to a respective fourth rod and that are each rotatable, slidable and lockable to a fifth rod."

It is respectfully submitted that the Examiner has made a general allegation that such a structure may be formed by the components disclosed in the Palenik, III patent, but has not found any specific support for this position in the Palenik, III patent. It is respectfully submitted that the Examiner has used hindsight reconstruction to derive the present invention from the teachings of the Palenik, III patent.

In view of the above arguments, and specifically those regarding Claim 1, it is respectfully submitted that Claims 11 and 17 are not disclosed or suggested by the Palenik, III patent. Accordingly, reversal of the Examiner's rejection of Claims 11 and 17 is respectfully requested.

Dependent Claims 12-16, 18 and 19 are considered patentable based upon their dependence from allowable Claims 11 and 17. Reversal of the Examiner's rejection of Claims 12-16, 18 and 19 is respectfully requested.

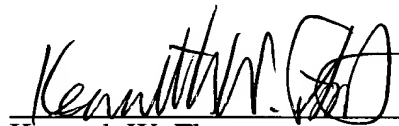
In addition, it is respectfully submitted that the detailed structures recited in the pending dependent Claims are clearly not disclosed or suggested by the Palenik, III patent, and certainly not without the use of hindsight reconstruction by the Examiner. Nowhere in the Palenik, III patent is there any teaching or suggestion regarding the use of multiple (first, second, etc.) dual axis clamps that are each rotatable, slidable and lockable to the recited multiple (first, second, etc.) rods to form the articulated structure. The only teaching of such structures is contained in the present application.

Furthermore, with regard to all pending Claims, it is respectfully submitted that the Examiner's unsupported assertion that the presently claimed structures are taught in the Palenik, III patent is based upon the use of hindsight reconstruction, and is not based upon anything that

is specifically disclosed in the Palenik, III patent. The Palenik, III patent discloses an amusement device, and does not teach any structure designed to hold an object. It is respectfully submitted that the Examiner has distorted the clear teachings of the Palenik, III patent in an attempt to argue that the present invention is taught therein. It is respectfully submitted that the Examiner cannot find any specific support for the position that the present invention is disclosed by the Palenik, III patent. The position of the Examiner quoted above in the second paragraph of these remarks only amounts to a general allegation that the Palenik, III patent discloses the present invention, and does not address the specifically claimed aspects recited in the pending Claims. For example, the Examiner has not addressed any detailed embodiments of the present invention such as are recited in the dependent Claims or in independent Claim 17, for example.

Therefore, and in view of the above, it is respectfully submitted that Claims 1-19 are not anticipated by, nor are they obvious in view of, the Palenik, III patent, and are therefore patentable. Therefore, it is respectfully submitted that the rejection of Claims 1-19 by the Examiner was erroneous, and reversal of the Examiner's decision is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kenneth W. Float", is written over a horizontal line.

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Registration No. 29,233

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## APPENDIX

Claims 1-19 presented below are pending in this application.

1. A universal holding fixture for holding an object, comprising:  
a plurality of dual axis clamps that are each rotatable, slidable and lockable to two rods  
to form an articulated structure, which rods and clamps are rotatable, slidable and lockable  
relative to each other to position the rods at varying and arbitrary angles relative to each other,  
5 and wherein selected rods are suitably positioned and secured to hold the object.
2. The fixture recited in Claim 1 wherein selected ones of the dual axis clamps are  
secured to a base.
3. The fixture recited in Claim 2 wherein a fixed rod is secured to the base and the  
articulated structure comprises eight dual axis clamps that are rotatable, slidable and lockable to  
six rods.
4. The fixture recited in Claim 3 further comprising two additional rods that are slidably  
secured to a selected one of the four rods by way of two additional dual axis clamps.
5. The fixture recited in Claim 1 wherein the articulated structure comprises eight dual  
axis clamps that are rotatable, slidable and lockable to six rods.
6. The fixture recited in Claim 5 further comprising two additional rods that are  
rotatable, slidable and lockable a selected one of the four rods by way of two additional dual  
axis clamps.
7. The fixture recited in Claim 1 wherein the articulated structure comprises:  
a plurality of first dual axis clamps that are each rotatable, slidable and lockable to a  
fixed rod and that are each rotatable, slidable and lockable to a second transverse rod;  
a plurality of second dual axis clamps that are each rotatable, slidable and lockable to a  
5 respective second rod and that are each rotatable, slidable and lockable to a third rod that is  
disposed generally transverse to the respective second rod;  
a plurality of third dual axis clamps that are each rotatable, slidable and lockable to a  
respective third rod and that are each rotatable, slidable and lockable to a fourth rod that is  
disposed generally transverse to the respective third rod; and  
10 a plurality of fourth dual axis clamps that are each rotatable, slidable and lockable to a  
respective fourth rod and that are each rotatable, slidable and lockable to a fifth rod.

*Functional language which is unsupported structure.*

8. The fixture recited in Claim 7 further comprising a plurality of fifth dual axis clamps that are each rotatable, slidable and lockable to the fifth rod and that are each rotatable, slidable and lockable to a sixth rod.

9. The fixture recited in Claim 1 wherein a plurality of first dual axis clamps are securable to a base and wherein the fixture further comprises a plurality of fifth dual axis clamps that are each rotatable, slidable and lockable to the fifth rod and that are each rotatable, slidable and lockable to a sixth rod, and wherein the sixth rods support the fifth rod at different positions above the base.

10. The fixture recited in Claim 7 further comprising a plurality of threaded machine screws that interconnect pairs of second and third dual axis clamps.

11. A universal holding fixture for holding an object, comprising:  
a base; and

an articulated structure secured to the base that comprises a plurality of dual axis clamps that are each rotatable, slidable and lockable to at least one rod, which rod and clamps are rotatable, slidable and lockable relative to each other to position the rod at varying and arbitrary angles, and wherein ends of selected ones of the rods are suitably positioned and secured to hold the object.

12. The fixture recited in Claim 11 wherein a fixed rod is secured to the base and the articulated structure comprises eight dual axis clamps that are rotatable, slidable and lockable to six rods.

13. The fixture recited in Claim 12 further comprising two additional rods that are rotatable, slidable and lockable to a selected one of the six rods by way of two additional dual axis clamps.

14. The fixture recited in Claim 11 wherein the articulated structure comprises:  
a plurality of first dual axis clamps that are each rotatable, slidable and lockable to a fixed rod and that are each rotatable, slidable and lockable to a second transverse rod;  
a plurality of second dual axis clamps that are each rotatable, slidable and lockable to a respective second rod and that are each rotatable, slidable and lockable to a third rod that is disposed generally transverse to the respective second rod;  
a plurality of third dual axis clamps that are each rotatable, slidable and lockable to a respective third rod and that are each rotatable, slidable and lockable to a fourth rod that is disposed generally transverse to the respective third rod; and

10 a plurality of fourth dual axis clamps that are each rotatable, slidable and lockable to a respective fourth rod and that are each rotatable, slidable and lockable to a fifth rod.

15. The fixture recited in Claim 14 further comprising a plurality of fifth dual axis clamps that are each rotatable, slidable and lockable to the fifth rod and that are each rotatable, slidable and lockable to a sixth rod.

16. The fixture recited in Claim 14 further comprising a plurality of threaded machine screws that interconnect pairs of second and third dual axis clamps.

17. A universal holding fixture for holding an object, comprising:

a base; and

an articulated structure rotatably secured to the base that comprises:

- 5 a plurality of first dual axis clamps that are each rotatable, slidable and lockable to a fixed rod and that are each rotatable, slidable and lockable to a second transverse rod;
- a plurality of second dual axis clamps that are each rotatable, slidable and lockable to a respective second rod and that are each rotatable, slidable and lockable to a third rod that is disposed generally transverse to the respective second rod;
- 10 a plurality of third dual axis clamps that are each rotatable, slidable and lockable to a respective third rod and that are each rotatable, slidable and lockable to a fourth rod that is disposed generally transverse to the respective third rod; and
- a plurality of fourth dual axis clamps that are each rotatable, slidable and lockable to a respective fourth rod and that are each rotatable, slidable and lockable to a fifth rod.

18. The fixture recited in Claim 17 further comprising a plurality of fifth dual axis clamps that are each rotatable, slidable and lockable to the fifth rod and that are each rotatable, slidable and lockable to a sixth rod.

19. The fixture recited in Claim 17 further comprising a plurality of threaded machine screws that interconnect pairs of second and third dual axis clamps.



AF/3723  
part of #16

PATENT  
PD-Y01-028

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Chris J. Kavanaugh  
Serial No. 09/932,018 ✓  
Filed: August 18, 2001  
For: Universal Holding Fixture

: Date: December 11, 2003  
: Group Art Unit: 3723  
: Examiner: Lee Wilson  
: Batch No.:  
: Patent No.:

**CERTIFICATE OF MAILING  
UNDER 37 CFR 1.8**

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The Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

**Identification of Transmitted Papers**

Brief on Appeal in triplicate, Transmittal letter in triplicate, check in the amount of \$165.00, return receipt postcard

I hereby certify that the above-identified correspondence is being deposited with the United States Postal Service on December 11, 2003 with sufficient postage as first class mail, and is addressed to the Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

  
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